

U.S. FISH & WILDLIFE SERVICE

**GREAT LAKES BASIN ECOSYSTEM
RESOURCE GOALS AND OBJECTIVES**

APPROACH

The U.S. Fish and Wildlife Service (Service) is implementing an ecosystem approach to address its federal responsibilities. Steps have been taken to form the Service's project leaders, within the Great Lakes drainage basin, into ecosystem teams. These teams are identifying federal concerns and working with State and Native American tribal resource managers to identify resource goals, objectives and action strategies. The interest and concerns of the State and Native American tribal partners is vital to the process, since they have the direct management responsibility except for federally listed threatened or endangered species and migratory birds, and share in the regulation of federally licensed or permitted projects, interjurisdictional species, trans-boundary and treaty obligations. Although the following resource goals, objectives and action strategies have benefitted from some State and Native American tribal participation, they should be considered a **draft**. The draft will be modified as input is received. The draft should be useful as a "guidance document" in that it provides a first cut at a comprehensive listing of concerns. Effective resolution will require the cooperation of the private sector, local identities, universities, Native American tribes, State, and Federal agencies. Further information may be obtained from the **Great Lakes Coordination Office, 2651 Coolidge Road, East Lansing, MI 48823; Phone 517-351-8245**.

SIGNIFICANCE OF THE ECOSYSTEM

The Great Lakes aquatic system is the largest freshwater body in the world, holding 18 percent of the world's supply of fresh water, covering 95,000 square miles with 9,000 miles of shoreline, more than 5,000 tributaries, and a drainage basin of 288,000 square miles. More than 35 million people live in the Great Lakes basin and depend upon its natural resources. The Great Lakes are receiving ever-increasing national and international attention. Recent attention has focused on the impact of exotic species, the precarious nature of the aquatic community structure, and contaminant levels all of which affect ecosystem health.

The extensive natural resource of the basin are used for varied fish and wildlife activities, drinking water, recreation, hydropower production (40 billion kilowatt hours annually), industrial water supply, waste disposal, and commercial navigation (163 million tons bulk goods annually). For commercial vessels traveling the Great Lakes-St. Lawrence Seaway system, the St. Lawrence River and Great Lakes comprise a journey extending 2000 nautical miles into the industrial and agricultural heartland of North America. Water related resources are an integral

part of outdoor recreation in the basin which is valued at \$15 billion annually, with sport fishing activities contributing \$4 billion annually.

TRUST RESOURCES IN THE ECOSYSTEM

The Great Lakes are part of a binational basin shared with Canada. Fish species of special interest include lake trout, lake sturgeon, lake whitefish, walleye, Pacific salmon and landlocked Atlantic salmon and their forage. Native mussels are being seriously impacted by zebra mussels and are in danger of extirpation from the Great Lakes Basin. The basin provides critical breeding, feeding, and resting areas as well as migration corridors for waterfowl, colonial nesting birds non-game birds, and many other species of migratory birds. Thirty-one species of migratory non-game birds of management concern to the Service are found in the Great Lakes ecosystem.

A recent survey of biological diversity in the basin identified 130 globally rare or endangered plant and animal species or ecological communities. The bald eagle, peregrine falcon, Kirtland's warbler, piping plover, Mitchell's satyr blue butterfly, Indiana bat, gray wolf, lake sturgeon, deepwater sculpin and pugnose shiner are a few of the many threatened, endangered, and candidate species which inhabit the Great Lakes ecosystem.

GREAT LAKES BASIN ECOSYSTEM PRIORITIES

Resource Goal 1: Habitat

Prevent further loss of remaining crucial terrestrial, aquatic and wetland habitat and restore and/or enhance degraded habitats beginning with publicly and Service-owned lands and waters in areas such as coastal wetlands, dunes, estuaries, islands, connecting channels and inland glaciated wetlands.

***Justification:** The Great Lakes are a confined ecosystem that has made a great deal of progress in recovery from near collapse. Recovery is hampered by continuous stresses caused by heavy and diverse uses of the system and societal growth in the basin. Therefore, a major pro-active effort is needed to continue the recovery and to reach the goal of a healthy and diverse ecosystem exhibiting long-term stability. Without an increased effort, society will not be able to provide the needed support for restoration and remaining crucial terrestrial, aquatic and wetland habitats will be lost through conversion to other uses.*

Resource Goal 2: Endangered and Threatened Species

Prevent the need for listing of declining species and recover presently listed threatened and endangered species in various areas within the basin.

***Justification:** Growth in society and resulting associated multiple uses of Great Lakes*

resources increases stress on native species. Without a significant effort to decrease stresses on listed species coupled with pro-active efforts to increase pre-listing activities, recovery activities of benefit to multiple listed species, and actions to prevent declining species from being listed, the numbers of threatened and endangered species will continue to increase. Economic conflicts concerning land use will reduce available habitat over time.

Resource Goal 3: Exotic Species

Use all available tools to prevent introductions and pursue efforts to reduce populations and prevent the range expansion of nuisance exotic species.

***Justification:** The pathways that had been available to allow exotic species to invade the Great Lakes basin have and are resulting in billions of dollars in economic losses to industrial and municipal users and severe ecological impacts. While opportunities for new invasions are being restricted, not all of the pathways have been closed. Without an increase in effort to limit the impacts and broadened distribution of exotics and to prevent further introductions, the economic and ecological costs to society will increase.*

Resource Goal 4: Environmental Contaminants

Prevent or identify and remediate contamination of fish and wildlife and restore habitats for terrestrial and aquatic communities.

***Justification:** Multiple private, local, State, Federal and international governmental partners have increased their efforts to prevent, remediate, and rehabilitate the Great Lakes ecosystem from chemical contamination, due to both point and nonpoint pollution. The goal being the restoration and maintenance of a healthy and productive ecosystem. The efforts of the many partners will not be fully effective if the Service does not increase its efforts to meet its responsibilities in this bi-national setting.*

Resource Goal 5: Stewardship

Promote stewardship supporting compatible and sustainable uses of the basin's land, water, plant, and animal resources.

***Justification:** Management of natural resources in the Great Lakes basin is shared by State, Federal, tribal, and Canadian governmental partners, who also rely on private and local agencies for significant support. Because of the size of the area, the bi-national setting and the range of migration of some species, cooperation by the partners is essential. Partner's efforts, however, will not be fully effective if the Service does not similarly increase its efforts to meet its responsibilities.*

Resource Goal 6: Public Awareness

Enhance or create education and outreach activities which are ecosystem-based and interfaced with the public and educational communities.

***Justification:** Future stewardship depends directly upon the environmental attitudes of society. An aggressive, well-organized education effort will promote understanding of and develop commitment to stewardship. Without such understanding and commitment, the public will perceive the goals of ecosystem-based management as costly and ineffective rather than as important to our future environmental and economic health.*

Resource Goal 7: Interjurisdictional Fish

Restore depleted interjurisdictional Great Lakes fisheries to self-sustaining levels, and help States, Native American tribes, and Canadian agencies manage the fisheries and maintain them in a productive and self-sustaining condition.

***Justification:** The valuable and diverse fisheries of the Great Lakes are managed under the jurisdiction of the Service, States, Native American tribes, and Canadian governmental agencies. Historically, the fisheries have been altered and degraded by fishing, habitat alteration, and exotic species. Restoration and maintenance at self-sustaining levels requires judicious stocking of hatchery-reared fish, interjurisdictional planning and information systems on lakewide and basin wide scales, habitat protection and restoration, and coordinated regulation of harvest. Achieving the goal will require that the Service increase its efforts to assist other agencies in coordinating fisheries management in the Great Lakes utilizing the unique regulatory authorities of the Service such as the Federal Power Act; Endangered Species Act; Lacey Act; Fish and Wildlife Coordination Act; Great Lakes Fish and Wildlife Restoration Act; and the CERCLA.*

Resource Goal 8: Migratory Bird Populations

In cooperation with partners, reverse the decline, restore, and maintain stable populations of migratory birds of concern.

***Justification:** The Great Lakes ecosystem provides important nesting and migration habitat for migratory birds. Habitat fragmentation and destruction, illegal take, and contaminant exposure threaten migratory birds. Collaborative efforts are needed to address these threats and promote stewardship of these resources.*

GREAT LAKES BASIN ECOSYSTEM OBJECTIVES

Note: Objectives have been grouped under Resource Goals for planning purposes. However, it should be noted that some Objectives may apply to more than one Resource Goal. Numbering of Resource Goals and Objectives is solely for the purpose of reference and does not in any way imply priority.

RESOURCE GOAL 1: HABITAT

Prevent further loss of remaining crucial terrestrial, aquatic and wetland habitat and restore and/or enhance degraded habitats beginning with publicly and Service-owned lands and waters in areas such as coastal wetlands, dunes, estuaries, islands, connecting channels, and inland glaciated wetlands.

Objective 1: Identify sensitive terrestrial and wetland habitats by 1998 and sensitive aquatic habitats by 2010, taking into account ongoing efforts.

Objective 2: Continue to protect and restore at least 15 percent of the sensitive terrestrial and wetland areas identified in Objective 1 by 2003, focusing first on lands and waters under direct partner control and then expanding to lands and waters under the control of willing cooperators.

Objective 3: Integrate the “ecosystem approach” into the development and implementation of multi-party and bi-national planning processes.

RESOURCE GOAL 2: ENDANGERED AND THREATENED SPECIES

Prevent the need for listing of declining species and recover presently listed threatened and endangered species in various areas within the basin.

Objective 1: Identify declining species, conduct status surveys and take pro-active measures to prevent the need for listing.

Objective 2: Protect and restore listed species to levels identified in approved recovery plans.

RESOURCE GOAL 3: EXOTIC SPECIES

Use all available tools to prevent introductions and pursue efforts to reduce populations and prevent the range expansion of nuisance exotic species.

Objective 1: Prevent or delay the spread of ruffe and round goby throughout the Great Lakes and inland waters.

Objective 2: Control sea lamprey populations to levels specified in Fish Community Objectives developed by the Lake Committees.

Objective 3: Cooperatively develop and implement by 1997 a reporting network for newly discovered exotic species, including analysis of potential threat to basin aquatic and terrestrial communities.

Objective 4: Assess the impact of zebra mussels on aquatic communities within the basin by 2000.

Objective 5: Implement and evaluate biological control of purple loosestrife at targeted areas within the basin by 2002.

Objective 6: Participate in efforts to develop and test ballast water management technology to prevent new introductions.

Objective 7: Participate in efforts to develop a dispersal barrier for aquatic species between the Great Lakes and Mississippi watersheds.

Objective 8: Assist jurisdictions in developing more effective regulation of live bait and aquarium fish commerce.

RESOURCE GOAL 4: ENVIRONMENTAL CONTAMINANTS

Prevent or identify and remediate contamination of fish and wildlife and restore habitats for terrestrial and aquatic communities.

Objective 1: Prevent contamination of fish, wildlife, plants, endangered species, wetlands, and aquatic habitats.

Objective 2: Identify contamination of fish, wildlife, plants, endangered species, wetlands, and aquatic habitats.

Objective 3: Restore beneficial uses to contaminated areas where such uses are now being impaired and/or fish and wildlife are being adversely affected.

RESOURCE GOAL 5: STEWARDSHIP

Promote stewardship supporting compatible and sustainable uses of the basin's land, water, plant and animal resources.

Objective 1: Develop and implement resource plans supporting compatible and sustainable use.

Objective 2: Utilize existing tribal, State, and Federal laws and regulations to encourage and enforce compatible and sustainable resource use.

RESOURCE GOAL 6: PUBLIC AWARENESS

Enhance or create education and outreach activities which are ecosystem-based and interfaced with the public and education communities.

Objective 1: Increase public understanding of fish and wildlife resources and their needs and provide opportunities for public use and enjoyment.

Objective 2: Foster press/media relations to ensure current and accurate representation of issues, activities, and successes.

RESOURCE GOAL 7: INTERJURISDICTIONAL FISHERIES

Restore depleted interjurisdictional Great Lakes fisheries to self-sustaining levels, and help States, Native American tribes, and Canadian agencies manage the fisheries and maintain them in a productive and self-sustaining condition.

Objective 1: Restore native fishes to levels specified in the *Fish Community Objectives* compatible with the *Joint Strategic Plan for Management of Great Lakes Fisheries* and/or the *Ecosystem Goals and Objectives* of the *Lakewide Management Plans*.

Objective 2: Provide technical assistance to States, Native American tribes, and other interested parties to address fishery resource issues and priorities identified via interagency multi-disciplinary processes such as the Service's Great Lakes Basin Ecosystem Team, the Lake Committee structure sponsored by the Great Lakes Fishery Commission, and in the *Lakewide Management Plans* promoted by the International Joint Commission.

Objective 3: Identify the extent of illegal take of Great Lakes fish and prevent such take.

RESOURCE GOAL 8: MIGRATORY BIRD POPULATIONS

In cooperation with partners, reverse the decline, restore, and maintain stable populations of migratory birds of concern.

Objective 1: Support objectives of the North American Waterfowl Management Plan (Upper Mississippi River and Great Lakes Region Joint Ventures) and the Mississippi and Atlantic Flyway Councils.

Objective 2: Support Partners in Flight objectives for nongame landbirds and participate actively in implementing regional and state Working Group conservation for these species.

Objective 3: Support conservation of all other species of birds protected by the Migratory Bird Treaty Act.

Objective 4: Minimize illegal take of migratory birds.

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